Podium Pro Audio

Audio at its highest level

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Podium Pro Audio

Model MX1204
12 Channel 4 Bus Mixing Console

User's Manual

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INTRODUCTION

The **Podium Pro Audio** MX1204 audio mixing console brings premium quality audio processing circuitry into the compact desktop class of mixers. Carefully designed signal routing, phantom microphone power, fully balanced design and versatile effects loops allow this console to provide un-matched performance and flexibility. Used in accordance with the information provided in this manual, this product will give years of trouble free use.

MX1204 FEATURES

- Four studio grade “Invisible” ultra low noise microphone (MIC) Preamps
- Four balanced line inputs
- Direct-coupled signal processing.
- Internal “switch-mode” power supply allows operation on 100 to 240VAC
- Rugged steel construction provides superior noise shielding.

BEFORE YOU BEGIN

- Read and *follow* these instructions.
- Heed all warnings.
- Do not use where the mixer may get wet.
- Do not obstruct airflow through the ventilation slots.
- Never defeat the AC polarizing or safety ground on the AC cord.
- Be certain all equipment is OFF before making or breaking connections.
- Clean console only with a damp (not wet) cloth.
- Refer all service needs to qualified personnel. There are no user serviceable components inside.

USING THIS MANUAL

Having a basic understanding of what a mixing console does is very important. This manual breaks the console down into basic function “blocks”. Details of all controls and connections are provided for each block.

ABOUT THE MX1204 BLOCK DIAGRAM

To get the most out of your MX1204 mixer, you will need a thorough understanding of what the console is doing. To help you, a block diagram of the circuitry has been provided on pages 6 and 7. A block diagram is a simplified schematic which illustrates signal flow from input to output and shows the numerous routing variations possible. Throughout this manual, you will frequently see the opamp symbol. . .

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This indicates that the current topic may be better understood by reviewing the block diagram.

SPECIFICATIONS

MICROPHONE INPUTS: Balanced XLR. PIN 1: ground, PIN 2: (+), PIN 3: (-)

Frequency Response: (+0dB/-1dB) <20Hz to 40kHz
(+0dB/-3dB) <20Hz to 100kHz

Gain: Adjustable, +10dB to +60dB
Maximum Input Level: (gain set to +10dB) +12dBu
Input Impedance: ≈2.6kΩ (balanced)
Signal-to-Noise ratio: (Re. 0dBu in @ +22dB gain) 110dB (112dB A-weighted)

Equivalent Input Noise: (20Hz to 20kHz)
Source impedance = 0Ω: -134dB (135.7dB A-weighted)
Source impedance = 50Ω: -131dB (133.3dB A-weighted)
Source impedance = 150Ω: -129dB (130.5dB A-weighted)

Distortion: (THD+N) 0.005%/0.004% A-weighted

MONO LINE INPUTS: Balanced ¼” phone jack. TIP: (+), RING: (-), SLEEVE: ground

Frequency Response: (+0dB/-1dB) <10Hz to 90kHz
(+0dB/-3dB) <10Hz to 160kHz

Input impedance: ≈20kΩ (balanced), ≈10kΩ (unbalanced)
Gain Range: -10dB +40dB
Maximum Input Level: +30dBu

Channel-to-Channel Crosstalk: Main faders closed: -90dB, reference level 0dBu
Channel faders closed: -89dB, reference level 0dBu
Channels muted: -89.5dB, reference level 0dBu
1kHz sine wave applied, measurement band pass 20Hz–20kHz.

STEREO INPUTS: Balanced ¼” phone jacks. TIP: (+), RING: (-), SLEEVE: ground

Input impedance: ≈20kΩ (balanced)
Maximum input level: +22dBu

ALL EQUALIZERS

LOW: ± 15dB @ 80Hz, shelving, MID: ± 15dB @ 2.5kHz, HI: ± 15dB @ 12kHz, shelving

AUX SENDS: Unbalanced ¼” phone jacks. TIP: (+), SLEEVE: ground

Output impedance: ≈120Ω
Maximum output level: +22dBu

STEREO AUX RETURNS: Balanced ¼” phone jacks. TIP: (+), RING: (-), SLEEVE: ground

Input impedance: 20kΩ (balanced)
Maximum input level: +22dBu

MAIN OUTPUTS: Balanced XLR, PIN 1: ground, PIN 2: (+), PIN 3: (-)

Output impedance: ≈240Ω (balanced) ≈120Ω (unbalanced)
Nominal output level: +4dBu. Maximum output level: +28dBu

CONTROL ROOM OUTPUTS: Unbalanced ¼” phone jacks. TIP: (+), SLEEVE: ground

Output impedance: ≈120Ω (unbalanced)
Maximum output level: +22dBu

HEADPHONES OUTPUT: Unbalanced ¼” phone jack. TIP: Left, RING: Right, SLEEVE: ground

Output impedance: ≈120Ω (unbalanced)
Maximum output level: +19dBu into 150Ω (+25dBm)

MAIN MIX SYSTEM NOISE:

Main mix @ ∞, channel fader @ ∞: -105dB/-108dB (A-weighted) reference level +6dBu
Main mix @ ∞, channel fader @ 0 dB: -95dB/-97dB (A-weighted) reference level +6dBu
Main mix @ 0 dB, channel fader @ 0 dB: -82.5dB/-85dB (A-weighted) reference level +6dBu

Measured at MAIN OUT. Measurement band pass 20Hz – 20kHz. Channels 1-4 @ unity gain, all EQs flat, all channels on MAIN MIX. Channels 1/3 balance full CCW. Channels 2/4 balance full CW.

POWER CONSUMPTION: 100-240VAC, 40W, Fuse: T1.6AH

DIMENSIONS: H=97mm (3-7/8”) W=247mm (9-11/16”) D=328mm (13”). 2.56kg (5-5/8 lbs)

REAR PANEL CONNECTIONS AND SWITCHES

① AC FUSE

1 Amp AC fuse located under panel on AC cord connector.

② AC CORD CONNECTOR

Standard IEC 3-wire power cord receptacle.

③ A/C POWER ON/OFF SWITCH

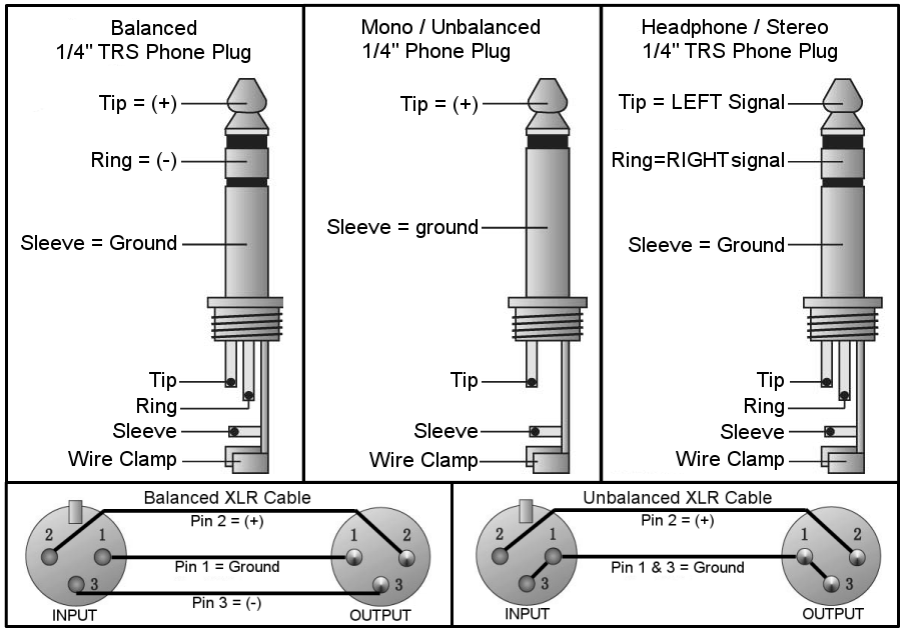
④ MICROPHONE PHANTOM POWER ON/OFF SWITCH

INSTALLATION

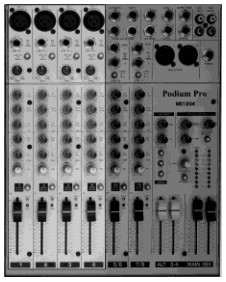
- The MX1204 is designed for indoor use. Never use in a location where the unit may get wet.
- NEVER defeat the safety ground provision of the IEC power cord.
- The console has ventilation slots on the sides of the enclosure. Do not install the console in such a way as to block airflow through the unit.

CONNECTOR WIRING

You will need many cables to complete the installation. Many more will be required for signal patching during sessions. Pre-fabricated cables may not always fit your needs and sometimes onsite repairs are necessary. The following illustrations show the correct connector wiring.

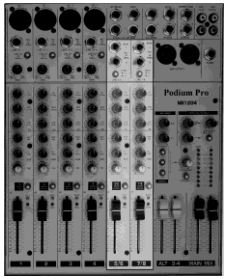


MONO MIC/LINE INPUT CHANNELS (1 - 4) DETAILS ON PAGE 4



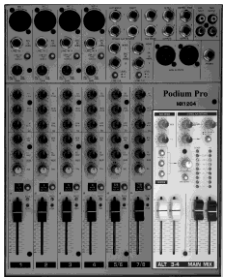
There are four identical MONO input channels located on the left of the console. These channels are organized vertically. At the top is an XLR microphone (MIC) input jack. 48V “phantom” power is available for condenser MICs. Next is a ¼” Tip Ring Sleeve (TRS) line level (LINE) input jack. Each MONO channel can be used as either a MIC or LINE input. The other controls provide a wide variety sound shaping and gain adjustments as well as signal routing and external processing.

STEREO INPUTS (5/6 - 7/8) DETAILS ON PAGE 5



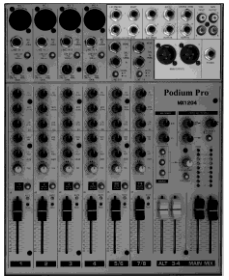
There are two STEREO inputs (4 mono channels). These channels are organized just like the MONO MIC/LINE channels and have the same controls and capabilities. However, no MIC inputs are provided. The line level inputs are balanced ¼” TRS jacks.

MAIN MIX AND ALT 3/4 CONTROLS DETAILS ON PAGE 8



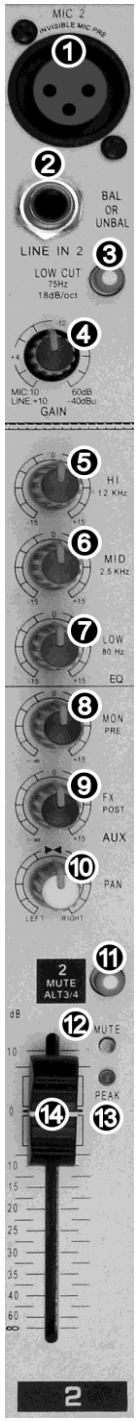
After all sources have been selected, equalization set and effects loops created, all sources are summed onto the LEFT/RIGHT MAIN BUS and the ALT 3/4 BUS are used to control the overall level of the “mix”. There are numerous routing options from this point forward. Here, you will find the controls for the MAIN MIX level, ALT 3/4 level, AUX send and return, control room and headphones.

INPUT / OUTPUT CONNECTIONS DETAILS ON PAGE 9



Here you will find all remaining input and output connections. This is where the MX1204 interfaces with the rest of the studio.

MONO MIC / LINE INPUT CONNECTIONS AND CONTROLS



① MIC INPUTS (1 - 4)

Balanced XLR microphone input jack.
PIN 1: ground, PIN 2: (+) signal, PIN 3: (-) signal
Phantom +48VDC supply: PINS 2 and 3 (when activated)
Ribbon, condenser and dynamic microphones are accommodated.

② LINE INPUTS (1 - 4)

Balanced ¼" phone jack (TRS). Line level input
TIP: (+) signal, RING: (-) signal, SLEEVE: ground
Any line level source (balanced or unbalanced) can be inserted here.

③ LOW CUT PUSHBUTTON

When on, reduces low frequency sounds such as air conditioning, traffic and MIC stand vibrations. Specifications: -3dB @ 75Hz, 18dB/octave rolloff.

④ GAIN

Rotary MICrophone or LINE input sensitivity control. Use to set the level of this channel relative to other inputs. Thus creating the desired "mix". Do not use as a fader.

⑤ HI EQ

Adjusts high frequencies up or down. Set to 0 (center detent) for no EQ.

⑥ MID EQ

Adjusts mid frequencies up or down. Set to 0 (center detent) for no EQ.

⑦ LOW EQ

Adjusts low frequencies up or down. Set to 0 (center detent) for no EQ.

⑧ MON PRE η

Adjusts the signal level sent to the AUX 1 bus. "MON PRE" is before, or pre FADER. This means FADER adjustments *will not* change the signal level being sent to the AUX 1 bus.

⑨ FX POST η

FX is shorthand for Effects (reverb, echo, EQ). If you wish to route the signal through an external device (effect) you would normally route it to the AUX 2 bus. This control adjusts the signal level sent to the AUX 2 bus. "FX POST" is after, or post FADER. This means FADER adjustments *will* change the signal level being sent to the AUX 2 bus, allowing the level of the external effect to "follow" the FADER.

⑩ PAN

Adjusts the relative position of the sound across the "stage" (left/center/right).

⑪ MUTE ALT 3/4 PUSHBUTTON η

The channel output normally goes to the LEFT/RIGHT bus. When "MUTE ALT 3/4" is depressed the signal is re-directed to the ALT 3 & 4 bus, which has the effect of muting the main output and making it available for headphone monitoring.

⑫ MUTE LED

This yellow LED lights whenever the MUTE ALT 3/4 ⑪ is depressed.

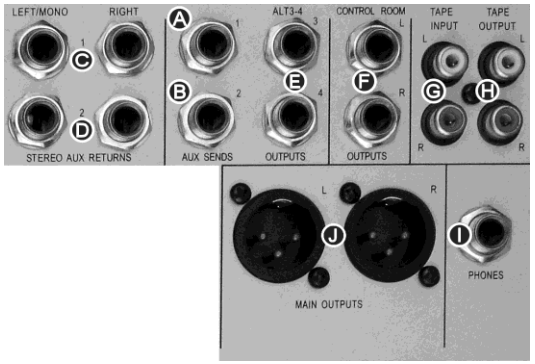
⑬ PEAK LED

This red LED lights when the input signal is too high. Lower input GAIN ④ or source level when this occurs.

⑭ FADER

Use only to "fade" the channel in or out during the performance. This is not a volume control.

INPUT / OUTPUT CONNECTIONS



Ⓐ AUX 1 SEND

Unbalanced ¼" phone jack, Tip Sleeve (TS). The sum of all signals sent to the AUX 1 bus are output here. NOTE: All feeds to the AUX 1 bus are pre-fader, also known as "dry".

Ⓑ AUX 2 SEND

Unbalanced ¼" phone jack (TS). The sum of all signals sent to the AUX 2 bus are output here. NOTE: All feeds to the AUX 2 bus are post-fader, also known as "wet".

Ⓒ STEREO AUX 1 RETURN η

Balanced ¼" phone jack (TRS). The STEREO AUX 1 RETURN is sent to the LEFT/RIGHT bus. If only the LEFT input jack is used the signal is sent to both the LEFT and RIGHT channels. (MONO)

Ⓓ STEREO AUX 2 RETURN η

Balanced ¼" phone jack (TRS). The STEREO AUX 2 RETURN can be sent to either the LEFT/RIGHT bus *or* the ALT 3 – 4 bus. If only the LEFT input jack is used the signal is sent to both the LEFT and RIGHT (MONO).

Ⓔ ALT 3 – 4 OUTPUTS

Unbalanced ¼" phone jack (TS). All signals sent to the ALT 3 – 4 bus (with the MUTE switches) are combined and sent to these output connectors.

Ⓕ CONTROL ROOM OUTPUTS L and R

Unbalanced ¼" phone jack (TS). Normally used to provide line level signal to the monitor speakers in the control room.

Ⓖ TAPE INPUT

Unbalanced phono jacks (RCA). Normally used for a 2-track recording device input. "TAPE INPUT" can also be used as an additional stereo line level input. For example, additional sound elements can be added to the mix from a CD player, iPod, MP3 player or computer.

Ⓗ TAPE OUTPUT

Unbalanced phono jacks (RCA). Wired in parallel with the MAIN OUTPUTS Ⓙ. Normally connected to the inputs of a 2-track recording device.

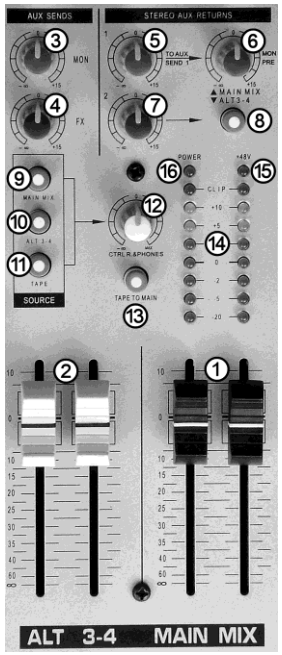
Ⓘ PHONES

Unbalanced ¼" phone jack (stereo TRS). You can connect monitoring headphones here. This output is the same signal as the CONTROL ROOM Ⓕ output.

Ⓙ MAIN OUTPUTS

Balanced XLR jacks. The LEFT and RIGHT "MAIN MIX" signals are available here.

MAIN MIX AND ALT 3/4 CONTROLS



① MAIN MIX FADERS
These faders control the LEFT and RIGHT MAIN MIX output levels. (See "⓫ MAIN OUTPUTS" on page 9) Use these faders like a system volume control.

② ALT 3-4 FADERS
These faders control the ALT 3 and ALT 4 output levels. The left fader controls ALT 3. The right fader controls ALT 4.

③ AUX 1 SEND MON η
Adjusts the output level of AUX 1 SEND output only. Typically used to control the stage monitor speakers.

④ AUX 2 SEND FX η
Adjusts the output level of AUX 2 SEND only. Typically used to control the signal level sent to external processor(s).

⑤ STEREO AUX 1 RETURN η
Adjusts the level of the incoming signal, which is mixed with the LEFT/RIGHT bus.

⑥ STEREO AUX 1 RETURN MON PRE
The STEREO AUX 1 RETURN signal is summed to mono, pre-fader and sent to the AUX 1 bus. This allows the application of effects to the stage monitors.

⑦ STEREO AUX 2 RETURN
Adjusts the level of the STEREO AUX 2 RETURN signal.

⑧ MAIN MIX / ALT 3 - 4
This push button assigns the STEREO AUX2 RETURN either to the LEFT/RIGHT bus (MAIN MIX) or to the ALT 3 - 4 bus.

⑨ MAIN MIX PUSHBUTTON
When depressed, assigns the stereo MAIN MIX signal to the control room (CTRL R) and headphone (PHONES) outputs.

⑩ ALT 3 – 4 PUSHBUTTON
When depressed, assigns the ALT 3 – 4 bus signal to the control room (CTRL R) and headphone (PHONES) outputs.

⑪ TAPE PUSHBUTTON
When depressed, assigns the LEFT and RIGHT TAPE input signals to the control room (CTRL R) and headphone (PHONES) outputs.

⑫ CTRL R & PHONES
Adjusts the level of the signal sent to the control room and headphone outputs.

⑬ TAPE TO MAIN PUSHBUTTON
Press to send the TAPE input directly to the LEFT/RIGHT bus (MAIN MIX). Typically used for playback monitoring or adding pre-recorded elements to the mix..

⑭ LED VU METER
These LEDs indicate the signal level of the MAIN MIX. For best results, avoid operation above 0dB. Occasional flashing of the +5dB or even the +10dB may be allowable but operation with the CLIP LEDs flashing must be avoided.

⑮ +48V LED
Condenser microphones require an external power supply to operate. This blue LED lights whenever the 48-volt microphone phantom power is on. The on/off switch for the phantom supply is located on the rear panel of the console.

- When the phantom supply is on, +48V is sent to *all four* of the microphone connectors. You may use either dynamic or condenser microphones while the "phantom" power is on.
- **Never use a balanced to unbalanced adapter when the phantom power is on!**

⑯ POWER LED
This red LED lights whenever the console is on. The AC power switch is located on the rear panel of the console.

STEREO INPUT CONNECTIONS AND CONTROLS

① MONO L
Balanced ¼" phone jack (TRS). LEFT or MONO line level input. NOTE: When only the MONO "L" input jack is used, the signal is sent to both left and right channels (MONO).

① R
Balanced ¼" phone jack (TRS). RIGHT line level input.

② LEVEL
Use this pushbutton switch to set the circuit gain to either +4dB (OUT) or -10dB (IN).

③ HI EQ
Adjusts high frequencies up or down. Set to 0 (center detent) for no EQ.

④ MID EQ
Adjusts mid frequencies up or down. Set to 0 (center detent) for no EQ.

⑤ LOW EQ
Adjusts low frequencies up or down. Set to 0 (center detent) for no EQ.

⑥ MON PRE η
Adjusts the signal level sent to the AUX 1 bus. "MON PRE" is before, or pre FADER. This means FADER adjustments *will not* change the signal level being sent to the AUX 1 bus.

⑦ FX POST η
FX is shorthand for Effects (reverb, echo, EQ). If you wish to route the signal through an external device (effect) you would normally route it to the AUX 2 bus. This control adjusts the signal level sent to the AUX 2 bus. "FX POST" is after, or post FADER. This means FADER adjustments *will* change the signal level being sent to the AUX 2 bus, allowing the level of the external effect to "follow" the FADER.

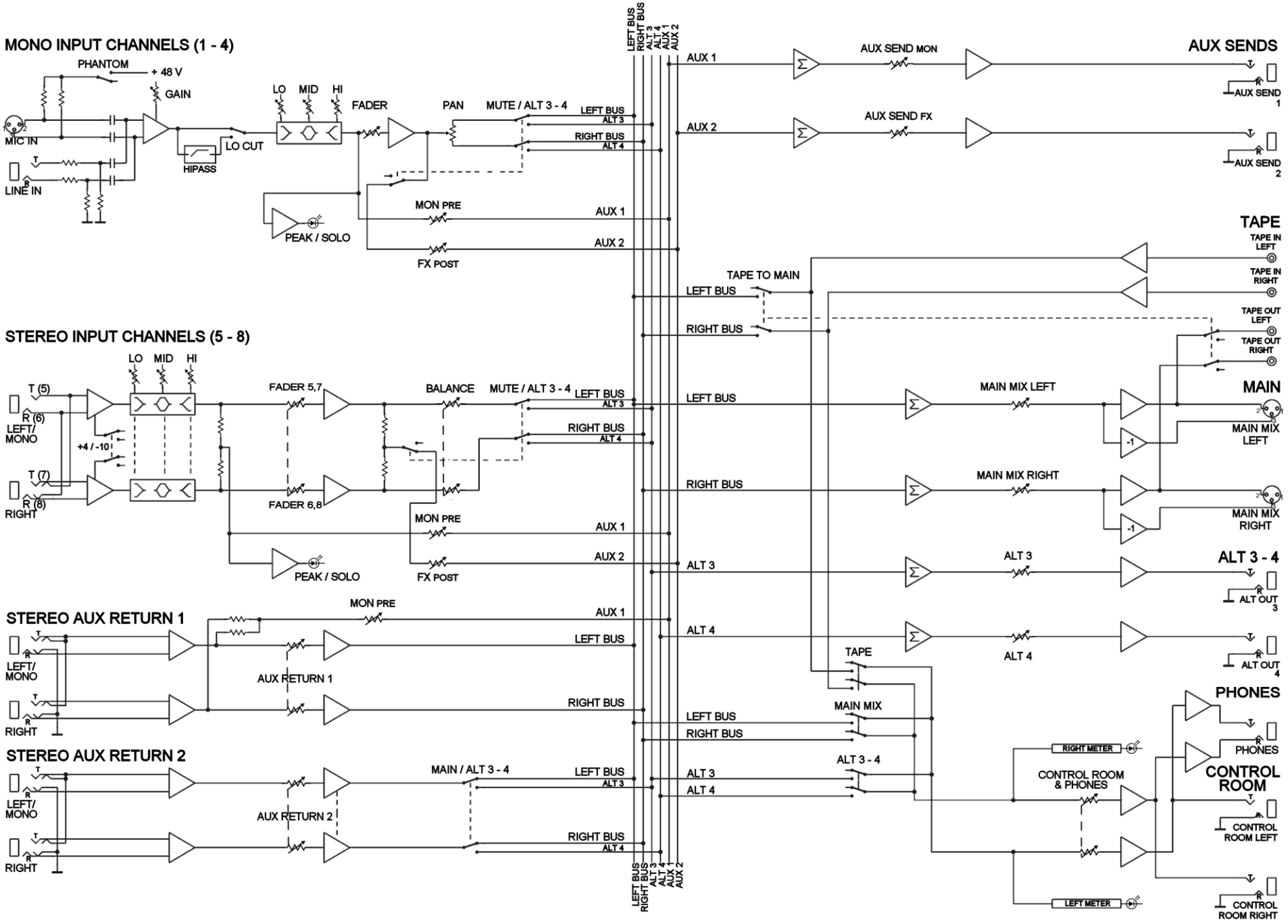
⑧ BAL
Adjusts the relative signal level (BALANCE) sent to the LEFT/RIGHT bus.

⑨ 5/6 MUTE ALT 3/4 PUSHBUTTON η
The channel output normally goes to the LEFT/RIGHT bus. When "5/6 MUTE ALT 3/4" is depressed the signal is re-directed to the ALT 3 & 4 bus, which has the effect of muting the main output and making it available for headphone monitoring.

MUTE LED
This yellow LED lights whenever the 5/6 MUTE ALT 3/4 ⑨ is depressed.

⑪ PEAK LED
This red LED lights when the input signal is too high. Lower source level when this occurs.

⑫ FADER
Use only to "fade" the channel in or out during the performance. This is not a volume control.



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MX1204 BLOCK DIAGRAM